Ss Cyril and Methodius University, Faculty of Natural Sciences and Mathematics, Institute of Chemistry,
Skopje, Republic of Macedonia

Goce Delčev University, Faculty of Agriculture,
Štip, Republic of Macedonia

17th International Symposium and Summer School on Bioanalysis

BOOK OF ABSTRACTS

2–8 July 2017
Congress Centre, Ohrid, Republic of Macedonia

Organizers and sponsors:

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WELCOME

Dear Colleagues and partners in the CEEPUS network,

It is my pleasure and honor to welcome you and your co-workers to the 17th International Symposium and Summer School on Bionalysis (17th ISSSB) organized in Ohrid, Republic Macedonia, from 2 to 8 July 2017.

The event is organized in the framework of CEEPUS CIII-RO-0010-11-1617 network. The aim of the Symposium and Summer School is to enable students and young researchers to learn and share knowledge, information and ideas about the current progress in the analytical techniques.

The symposium focuses on the recent achievements in the mainstream fields of application of analytical techniques and bioanalytical methods in chemical and pharmaceutical research, and related topics.

The scientific program includes plenary lectures, oral and poster presentations. Special attention will be given to the young researchers with sessions of podium poster communications.

I wish you a pleasant and memorable stay in Ohrid.

Trajče Stafilov
Symposium Chair, 17th ISSSB

17th International Symposium and Summer School on Bioanalysis

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IDENTIFICATION OF PESTICIDES IN GROUNDWATER SITUATED UNDER GREENHOUSE AGRICULTURE PRODUCTION AND DROPPING IRRIGATION, USING GC/MS PULSED SPLITLESS INJECTION

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The aim of this stady was to investigate the quality of groundwater situated under a topsoil where greenhouses and dropping irrigation system are used in tomato production. A GC-MS method was applied using pulsed splitless injection with pressure of 50 psi and purge flow to split vent of 1.5 minutes [1], for the screening of the most friquently used pesticides such as benalaxyl, chlorpyrifos, malathion, pirimifos methyl, methomyl, metribuzin, penconazole, triadimenol, pyrimethanil, and buprofezin. Seventy eight groundwater samples were collected from the region of Strumica, an agricultururally vulnerable area regarding pesticide application, during 2014 - 2015. Slightly modified liquid-liquid extraction was performed using dichloromethane as a solvent [2]. The obtained results show negligible pollution of groundwater with investigated pesticides. Only 5% of investigated samples were polluted with pesticides in concentrations which doesn't exceed the national maximum concentration limit. The analysis showed the presence of pyrimethanil and chlorpyrifos in maximum concentrations of 0,0299 ± 0,00026 µg/l and 0,133 ± 0,00929 µg/l, respectively. The main reason for this negligible pollution of groundwater with pesticides is considered to be the use of greenhouses and the dropping irrigation system in agriculture production which doesn't allow high quantity of water to be able to pass from the soil surface downward to the aquifers.

Keywords: GC/MS, pulsed splitless injection, pesticides, groundwater, dropping irrigation.

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